

This listing of claims will replace all prior versions, and listings, or claims in the application:

Claim listing:

1. (currently amended) An anticollision beacon comprising:
a generally cylindrical, thermally conductive support having an axis and a bottom surface;
a plurality of LEDs mounted in thermally conductive relationship to said support, each of said LEDs having an optical axis;
~~a plurality of reflectors secured over said arrays to said support,~~ said reflectors defining openings for each of said LEDs, said openings located in an open ended radially oriented trough defined by the reflector; and
a thermally conductive base including a support surface for mounting said support in thermally conductive relationship to said base,
wherein said support and said base provide a thermal pathway for heat generated by said LEDs, and the optical axes of said plurality of LEDs are substantially perpendicular to said support axis.
2. (currently amended) The anticollision beacon of claim 1, comprising:
a cup-shaped lens configured to cover said support, said LEDs and said ~~arrays~~ reflectors and mount to said base,
wherein said base includes a peripheral heat radiating surface not covered by said lens.
3. (original) The anticollision beacon of claim 1, wherein said thermally conductive support is axially symmetrical and has a polygonal exterior surface defining a plurality of axially extending, substantially planar faces.

4. (currently amended) The anticollision beacon of claim 1, ~~wherein each said array comprises~~ comprising:

~~a plurality of LEDs; and~~

a thermally conductive PC board having a ~~substantially planar~~ rear surface opposite said LEDs,

wherein said LEDs are mounted in thermally conductive relationship to said PC board and said PC board rear surfaces are held against said support by said reflectors.

5. (currently amended) The anticollision beacon of claim 1, wherein said thermally conductive support has a polygonal exterior surface defining a plurality of axially extending, substantially planar faces, ~~wherein each array~~ and said anticollision beacon comprises:

a thermally conductive PC board having a substantially planar rear surface mounted in thermally conductive contact with one of said planar faces; and

a subset of said plurality of LEDs mounted in thermally conductive relationship to said PC board.

6. (currently amended) The anticollision beacon of claim 5, wherein each said reflector spans more than one PC board and each said trough includes openings for radially adjacent LEDs ~~from more than one said array~~.

7. (original) The anticollision beacon of claim 1, wherein said openings are located at a radially inward most point of said trough and said troughs are segmented into semi-parabolic reflecting surfaces centered on each LED.

8. (currently amended) The anticollision beacon of claim 1, wherein said reflector troughs define segmented reflecting surfaces with each segment centered on ~~said LEDs~~
an LED.

9. (currently amended) The anticollision beacon of claim 1, wherein each said LED ~~has an optical axis and~~ radiates light in a hemispherical pattern, said radiated light including axially close light and axially remote light, said trough defining a reflecting surface configured to redirect said axially remote light into a direction substantially parallel to a ~~horizontal~~ plane including said optical axes.

10. (currently amended) The anticollision beacon of claim [1] 4, wherein said PC boards are metal core PC boards and said support is aluminum.

11. (original) A method for providing an anticollision beacon comprising:
providing an axially extending thermally conductive support, said support having an a polygonal exterior surface with a plurality of substantially identical planar faces;

providing a plurality of substantially identical LED arrays, each of said arrays comprising:

a thermally transmissive PC board with a substantially planar rear surface complementary in configuration to each of said faces; and

a plurality of spaced apart LEDs mounted to a front surface of said PC board in thermally conductive relationship to said PC board;

providing a plurality of reflectors defining a pattern of openings coinciding with the LEDs of at least one of said arrays and reflecting surfaces adjacent said openings;

arranging one said array on each of said faces with said rear surface in thermally conductive relationship to said support;

providing a thermally conductive base with a support mounting surface;
securing a plurality of reflectors over said arrays with said LEDs aligned with said openings such that said PC boards are intermediate said reflector and said support and light from said LEDs is incident upon said reflecting surfaces;
and

mounting said support in thermally conductive relationship to said base.

12. (original) The method of claim 11, wherein said step of securing comprises:
fastening said reflector to said support at axially spaced locations with fasteners passing through apertures in said reflector and said PC board.

13. (original) The method of claim 11, wherein said step of arranging comprises:
applying heatsink compound to said rear surface at locations opposite said LEDs.

14. (original) An anticollision beacon comprising:
a thermally conductive support having an exterior surface including a plurality of substantially planar faces symmetrically arranged about an axis;
an array of LEDs mounted in thermally conductive relationship to each of said faces, each of said LEDs having an optical axis and a light radiation pattern surrounding said optical axis;
a plurality of reflectors secured to said support, each of said reflectors defining a plurality of openings aligned with the LEDs of at least one array and including a reflecting surface, one of said LEDs being received in each of said openings;
a thermally conductive base in thermally conductive relationship with said support, said base extending radially outwardly of said reflectors; and
a circuit for providing electrical current to energize said LEDs,

wherein said LEDs emit light when energized, said light including axially close light having a trajectory at an angular displacement from said optical axis of less than 20° and axially remote light having a trajectory at an angular displacement from said optical axis of greater than 20° , a portion of said axially remote light being redirected by said reflecting surface to a trajectory substantially perpendicular to a plane including the optical axes of axially aligned of said LEDs.

15. (original) The anticollision beacon of claim 14, wherein said reflecting surface defines a trough made up of reflecting surface segments each centered on an LED.

16. (original) The anticollision beacon of claim 14, wherein at least one LED of at least one array is axially aligned with at least one LED of an adjacent array and said reflector defines an open ended trough which allows some of the light emitted by said axially aligned LEDs of adjacent arrays to overlap.

17. (original) The anticollision beacon of claim 14, wherein said support is a faceted cylinder having a circumference, at least one LED of each array is axially aligned with at least one LED of a circumferentially adjacent array and said reflector defines an open ended trough which allows some of the light emitted by said axially aligned LEDs of circumferentially adjacent arrays to overlap.

18. (original) The anticollision beacon of claim 17, wherein the optical axes of axially aligned LEDs project radially outwardly from said support in a plane perpendicular to said axis.

19. (original) The anticollision beacon of claim 14, wherein each said reflector covers a plurality of arrays.

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20. (original) The anticollision beacon of claim 15, wherein said reflectors surround said support to provide a substantially uninterrupted reflecting surface.